Chapter 30. Water and Culture — Table of Contents

Boxes

Chapter 30. Water and Culture

> Water has a special place in all human societies. It's the essence of fertility and growth, of sustained life, associated with cleansing and renewal, with the spiritual forces of the cosmos. We've worshipped it and celebrated its magical, flowing qualities, commemorated its mystical dimensions…it has an indispensable role in human life, for it lies behind everything we do…Water is one of the few cultural universals, inspiring a profound mingling of ritual and day-to-day use.
>
> *Elixir: A History of Water and Humankind*

While water is one of the few cultural universals globally, there is great diversity about how water is perceived, valued, used, distributed, and regulated in California. There are many understandings of water and different meanings of water that reach beyond the conventional standpoints of use and commodification in water management and supply distribution.

Water and culture are connected in a myriad of ways, with subtle and complex implications for water management in California. Some cultural relationships to water are so pervasive, they may be easy to overlook. Other cultural considerations are less apparent and may be difficult to recognize. Increasing the awareness of how cultural values, uses, and practices are affected by water management, and how these have an effect on water management as well, such information will help inform policies and decisions. Even regulations reflect cultural values by their practice such as water, when viewed as a commodity, may be controlled through laws, regulations, and policies. See Box 30-1 for the types of California laws and policies about cultural resources.

PLACEHOLDER Box 30-1 Laws and Policies

[Any draft tables, figures, and boxes that accompany this text for the public review draft are included at the end of the chapter.]

Water resources have shaped the history of California, contributing to the current social, cultural, and economic patterns across the state. The presence of freshwater sources has influenced the location of settlements and communities for hundreds, even thousands, of years. Water resources have also been pivotal to key economic activities such as fishing, mining, agriculture, manufacturing, as well as tourism and recreation. These historic aspects of development continue to have ramifications for water managers today.

Water and water-dependent resources also shape individual and collective experiences contributing to individual and community well-being, sense of identity, and connection with the natural world. These experiences are inextricably linked to values, traditions, and lifestyles, which in turn inform perspectives and expectations regarding water resources and conditions. More important, cultural considerations are inherently linked to every resource management strategy.

What is Culture?

All of us have some notion, or have heard the word "culture," but what is culture? Culture is a concept. The *Merriam Webster Dictionary* defines culture as:

> The integrated pattern of human knowledge, belief, and behavior that depends upon the capacity for learning and transmitting knowledge to succeeding generations; the customary beliefs, social forms, and material traits of a racial, religious, or social group; *also***:** the characteristic features of everyday existence (as diversions or a way of life) shared by people in a place or time; the set of shared attitudes, values, goals, and practices that characterizes an institution or organization.

Culture represents the larger collective lifeways, mindsets, and practices that represent the diversity of California's social fabric. Shared passions, beliefs, histories, and experiences bring people together to create group and community identities. Many California tribes have their own creation story that may include water — tides, water spirit, ocean, rivers, springs, lakes, rain, creatures of the water, mud duck, convergence of water ways — forks, and the head waters. (Donna Miranda-Begay). Fishing towns and villages share social and cultural identities that derive from livelihoods that define ways of life. Ranching and agricultural communities were settled near water sources. These working landscapes provided habitat and vistas that characterized the West. The surfing and beach culture of California is directly associated with coastal and ocean resources, projecting and iconic image and serving as a key economic driver for the state. The environmental movement has advocated for coastal and river protections throughout the state.

For example, Box 30-2 indicates a range of diversity in how anthropologists and others may describe and define culture.

PLACEHOLDER Box 30-2 Diverse Definitions of Culture

[Any draft tables, figures, and boxes that accompany this text for the public review draft are included at the end of the chapter.]

National Park Service's Definition of Culture

The *National Register Bulletin 38* refers to its internal cultural resources management guidelines for its definition and view of culture:

> Culture [is] a system of behaviors, values, ideologies, and social arrangements. These features, in addition to tools and expressive elements such as graphic arts, help humans interpret their universe as well as deal with features of their environments, natural and social. Culture is learned, transmitted in a social context, and modifiable. Synonyms for culture include lifeways, customs, traditions, social practices, and folkways. The terms folk culture and folk life might be used to describe aspects of the system that are unwritten, learned without formal instruction, and deal with expressive elements such as dance, song, music and graphic arts as well as storytelling.
>
> *National Register Bulletin 38: Guidelines for Evaluating and Documenting Traditional Cultural Properties, Appendix I*

Comment [D1]: The other ways to define culture we need those ways

The opposite of maintaining an open and respectful view about different cultures is called ethnocentrism, described as "evaluating other cultures from the perspective of one's own presumably superior culture" (Bodley 1997) and being unable to "sympathize with the feelings, attitudes, and beliefs of someone who is a member of a different culture" (Parker and King 1998).

Cultural Resources and Cultural Resources Management

Cultural resources are comprised of both physical and intangible aspects of social practices, routines, and ways of life. Intangible aspects of culture include language, beliefs, practices, and traditions. These are often associated with cultural resources comprised of physical objects or places including structures, cultural landscapes (which combine natural and constructed elements), specific locations with special significance, or natural materials.

Management choices for some cultural elements are guided by statutory requirements. For example, cultural resources representing historic artifacts, sites, and buildings may be protected under the National Historic Preservation Act. The equitable distribution of effects and benefits is evaluated with regard to environmental justice and public trust factors. Other cultural materials, uses, and practices might need to be assessed within the context of a particular policy or project.

Native Perspectives of Cultural Resources and Cultural Resources Management

A cultural resource is the terminology and concepts applied to resources that are utilized by native tribal people for utilitarian and subsistence purposes in their traditional way of life (Goode 2011).

In Lakota culture, the saying is "We are all related." Unlike Western views of management where humans manage their resources, tribes see humans as a part of the land, water, and air. On the first day of the 2013 Tribal Water Summit, some of the highlighted themes were

- The need for collaborative resource management.
- The value of oral, historical, and qualitative data applied to good resource management.
- Cultural identify is tied to the land and natural resources.
- Sharing tribal ecological knowledge requires trust and relationship building (Paula Britton).

Cultural prosperity for tribes is dependent on caring for the natural world. Re-creating past conditions requires an understanding of how people lived in their environments. For example, selective harvesting or culling was informed by traditional knowledge. Similarly, cultural burns involved fire mosaics that were timed and managed to generate specific types and qualities of resources. Other practices, such as rock drop structures, enhanced groundwater recharge, stabilized stream flows, and created riparian habitat. The managed environment provided food, medicine, and building materials for the tribe. Removing people from the landscape is neither healthy nor sustainable. For centuries, tribes have experience in observing, evaluating, and manipulating ecosystems to continue their way of life and preserve their traditions. Tribes want to manage their lands and watersheds, and at the very least to co-manage them. Tribes are willing to work with local, State, and federals agencies to achieve this (Nathan Voegeli).

A further example of this is the Marine Life Protection Act (MLPA) process. The MLPA Initiative was presented as a case study at the 2013 Tribal Water Summit. When it was first developed, the MLPA

Comment [D2]: Looking at shortages of water affect communities and cultures for example the Latino communities. Therefore water decisions become a policy issue.

Policy decisions relating to water have a direct impact on communities

Water managers cannot do their job properly they cannot understand the context to make the right decisions or learn that is based on the cultural context.

Comment [D3]: Looking at cultural and historical background and how it affects the overall structure of California and infrastructure changes that alter California

Comment [D4]: Concept of where water comes from you are not buying the water to use it is a gift not being purchased. Addressing how the co modification of water relates to use and understanding of water.

Should we include ECO/EGO graphic

Comment [D5]: One option is having Trial Advisory Committee providing a definition for culture as a first step.

Comment [D6]: Cultural definition for Native American Perspective will require discussion of spiritual as it ties to the sacred sites and spiritual components of culture as it relates to water management. Water and culture needs to include spiritual not just utilitarian water.

Comment [D7]: Political context you cannot speak about water and culture without discussion the political contexts of how water policy affects water and water management which has an affect on culture.

The right to water as a citizen in addition to the tribal relationship to water through a political relationship and a government structure and relationship to water. The political context about why Tribes have a to water.
Chapter 4 of Volume 1 should be referenced to provide reference and framework for the politica ...

Comment [D8]: Graphic of periods of time as a way to help discuss the water.

Comment [D9]: Whether we are building a policy, structure and reframe the discussions definition is not necessary and there are periods of time where we need to ground the definition of the relationhship of water from wher we began with to the point of environmental stewardship and ...

Comment [D10]: STructure of the documet -- reframe definition

Is there more than one definition ...

addressed only commercial and recreational uses of marine resources. Tribal involvement was very limited. As the process evolved, there were geographically sequenced meetings along the California coast, moving from Southern California to Northern California. Tribes were disenfranchised in the earlier sessions and shared information with North Coast Tribes. When the process reached the North Coast area, it was apparent that tribes expected to be involved and that they had support from local government, fishing, and environmental interests.

Comment [D11]: References to water stories included for stories provided in resources section.

There were challenges and frustration regarding MLPA and how it was developed. With time, the initial confrontations turned into a commitment to change the outcome. The process was not perfect and some tribal desires did not move forward. However, the process did change the paradigm of how tribes and State agencies work together and how policies can be influenced to support tribal sovereignty and improve the management of natural resources.

The MLPA process was one example of the valuable information tribes possessed, also known as Tribal Ecological Knowledge (TEK), that can inform agency practices in a number of ways. Formally, government-to-government consultation can guide policies and practices. Tribal practitioners can provide input on specific plans or proposals informally. Western science and TEK are both science-driven. Both are essential to better managing fishery, forest, and watershed resources. Agencies and tribes have a shared interest in working together on resource management and restoration activities.

For example, North Coast tribes worked with the Regional Water Quality Control Board to develop a new beneficial use category to protect cultural practices. Tribes throughout the state are working with the State Water Resources Control Board to have all regional basin plans have a cultural use category. The State Water Resources Control Board is also considering adding a beneficial use for subsistence fishing (Felicia Marcus).

Cultural Considerations and Water Management in California

Expression of cultural connections to water and water-dependent resources can involve a wide range of activities and material objects. The following categories of cultural activities are offered to encourage reflection and discussion on the different ways that water and culture interface. The categories are for illustrative purposes only and contain areas of overlap. Examples of water management factors are provided in each section. Also, any social, cultural, or economic uses of waterways or water-dependent resources can impact the resource base. This can result from trash, overuse, or the introduction of non-native species.

Subsistence Activities include traditional hunting, fishing, and collecting plants for food sources, medicinal properties, and raw materials. Water flows and water quality are critical aspects of supporting water-dependent subsistence activities. Public health risks can occur if food sources are obtained from contaminated water bodies. These risks are increased with higher consumption levels of locally obtained food sources that can occur in subsistence households and communities. This can well exceed safe consumption levels. For example, no more than three servings a week of fish caught in a particular lake or stream should be eaten due to a health risk in that particular lake or stream. Also, communication relating to risks or contamination may be hampered by language barriers.

Recreation Activities embrace a broad spectrum of pursuits that range from full-body contact (swimming, surfing) to minimal contact (water providing the scenic backdrop for hiking and wildlife viewing). Recreational pursuits encompass motorized and non-motorized activities. These activities range, for example from boating and riding jet skis to picnics and kayaking. Here again, water flows and water quality are key factors contributing to recreational experiences. Public health risks can occur if waters are contaminated. Beach closures, which protect public health, also affect recreation and tourism. Another factor that can influence water-related recreation is the availability of facilities, such as boat ramps, parking, rest rooms and general-purpose stores.

Spiritual Activities draw upon the cleansing, healing, and renewing properties of water. Examples include outdoor baptisms, sweat lodges, lakeside weddings, Native American ceremonies, and the blessing of the fleet in fishing communities. While these examples focus on particular activities, some perspectives see an inherent spirituality in water itself, which is always present. These events and perspectives share a common theme in transcending the mundane through a sacred and profound connection to water. In addition to water levels/flows and water quality, those seeking a spiritual experience may include considerations of aesthetics and solitude. A busy pattern of recreational use on public lands could interfere with sacred pursuits.

Historic Preservation seeks to maintain the legacy of the past by protecting historical features (artifacts, sites, places, buildings, or cultural landscapes). Some historic objects may be directly related to water infrastructure (diversions, flumes, mills). Other historic features may not be directly related to water resources, but are challenged by water management projects and activities. For example, receding waterlines at lakes or reservoirs could expose protected historic features. Conversely, surface storage facilities could inundate historically or culturally significant features or locations that are important to a community. Another example is water system upgrades that need to modify or replace historic infrastructure or support buildings, or new water projects where ground-disturbing activities could destroy historic resources. Water managers are encouraged to review the legal requirements with their legal office that might be associated with these situations. A list of key statutory provisions is provided in another section of this resource management strategy.

Lifeways represent the larger collective mindsets and practices that represent the diversity of California's social fabric. Shared passions, beliefs, histories, and experiences bring people together to create group and community identities. Several of the lifeways, which have come to typify California to the rest of the world, have a strong connection to water.

- Native American tribes often describe their social and cultural identities in terms of being inseparable from the natural world.
- Fishing towns and villages share social and cultural identities that derive from livelihoods that also define ways of life.
- Ranching and agricultural communities were settled near water sources; these working landscapes also provide habitat and vistas that characterize the West.
- The surfing and beach culture of California is directly associated with coastal and ocean resources, projecting an iconic image and serving as a key economic driver.
- The environmental movement in California has strongly advocated for coastal and riverine protections throughout the state.

These lifeways are characterized by a close relationship with the land and waters. The well-being of the environment and the community are one, with responsibilities to long-term stewardship and heightened awareness, knowledge, and expertise regarding local conditions.

California Native American Tribes' Relationships with Water

All plant and animal resources are water dependent. Resources have a variety of water dependent levels. Village sites and areas for cultural practices are found within a quarter mile of water whether it is a spring, creek, river, etc. which may still exist or once existed. It is no surprise that any excavation near a water body uncovers artifacts, such as bedrock mortars, petroglyphs, and tools, prove that Native American life was dependent on water. Therefore, their traditional practice of taking care of the land was highly relevant to keeping the water restored so that their resources had a continuum of regeneration (Goode 2011).

Below are excerpts from the 2013 Tribal Water Summit speakers sharing their tribe's relationship to water and the importance of managing the watershed for improved water quality and quantity:

- TEK has been passed down over thousands of years through oral traditions. Historic and ethnographic efforts continue to document this knowledge. It is time to incorporate tribal knowledge into restoration efforts led by local, State, and federal agencies.
- Tribes are a product of their homelands and ceremonies are tied to the land. The practices and conditions associated with caring for the land are transmitted orally down through the generations as TEK (Ron Goode).
- Materials used to weave a basket come from clean water and proper management of that resource (Don Hankins).
- When I hand someone a piece of willow, sedge, or bear grass I ask, "How clean was the water that this grew in?" Because they are now affected by it (Ruthie Maloney).
- Basket weavers split materials with their teeth. Important to avoid sprayed vegetation. Older weavers gather by road due to mobility constraints. Road vegetation gets sprayed (Sage LaPena).
- Not all tribes able to practice because of land constraints, lack of access, lack of protection, and preservation issues, but they continue their cultural knowledge to teach and practice (Lois Bohna).

Below are examples of how lack of access to water or unmanaged water diversions has affected Native American life.

- With no flows in the Trinity River, the Hoopa Valley Tribe cannot practice their river dances e.g., Flower Dance, Boat Dance, Deerskin Dance, and Jump Dance.
- Because a spring ran dry due to drought and groundwater pumping in Nevada, the Susanville Indian Rancheria could not perform their purification sweats to reconnect with Mother Earth. The Bureau of Land Management trucks in water so that ceremonies can continue (Aaron Dixon).
- LADPW diversions have dried Owens Lake and reduced Mono Lake water levels (Donna Vasquez and Alan Bacock).
- Water from the San Jacinto Mountains is diverted for residential areas causing low flows and preventing the hot springs to recharge. Hot springs are used for cultural practices. Low flows also inhibit subsistence activities or recreational contact. Without water, plants used for baskets, medicine, and events cannot grow. The culture dies (Erica Helms-Schenk).

- If Native Americans are not allowed to access their native sources, ancestral, or sacred sites, how can the culture continue and thrive? How will the traditional knowledge of the elders be passed down to the youth? The 2013 Tribal Water Summit echoed repeatedly how Native Americans hope to manage their lands and are open to co-managing with partner agencies and organizations. Many examples of successful co-management have been shared as well as examples of tribes acquiring land to manage for their own.

Everything in the natural world comes from the same place. Human beings are not separate from the other forms of spirit people (Leaf Hillman).

Photo Examples

Ceremonies - Mati

Traditional resource management practices: burning, stewardship activities, - Ron

Subsistence activities: root/reed collection, - Lois

Implications for Water Management

Understanding the activities and accomplishments of past groups is important since the decisions made in the present are often influenced by the past. Simply stated, in order to understand the future, there first must be an understanding the common past and heritage shared by all. This is particularly relevant within California as the state's history is bound to the availability and development of water infrastructure. Without understanding the basis and context of existing infrastructure and management, it is difficult to understand the consequences of future actions.

In today's context, cultural practices and perspectives may also be a source of conflict or result in special management needs. For example, a number of immigrants bring cultural practices to California and continue them, which may result in unintended consequences. For example, subsistence fishing may expose a community to high levels of containments. In other cases, historic practices of long-time residents that were a high utility at one time may create or experience unintended consequences due to demands of competing uses or increased concerns over potential negative impacts. One example is the controversy over suction dredging. Still, other conflicts arise as the state becomes increasingly urban and loses some of its historic character.

Other current water management issues are directly tied to past economic and development patterns are:

- Placer mining legacy issues of heavy metals contamination.
- Reclamation of floodplains and wetlands and developing them.
- Hydropower operations and consequences for sediment management, fish passage, and water flows and temperature.
- A hybrid system of water rights which encompasses riparian and appropriate rights and adjudicated groundwater basins.
- Through the 20th Century, dairies were encouraged to locate on waterways to help manage waste, which has created a legacy issues.
- Logging activities and flash dams, which modified watersheds.

Comment [D12]: Looking at tools to improve water

1.Education on storm drains and water use
2.Conservation strategies (green lawns versus not)
3.Traditional and current use of fire for improving forest health. Look at FS work as well as cultural burning and traditional burning how it affects with fuel loads as well as improving watershed health (then improving water and ecosystem health) all this has a direct affect of the water by not severely burn it you allow infiltration that improves the overall water table.
4.Fire management as a tool within this chapter. Fire management as a box and a reference to other sides
5.Appropriate technologies, not all technologies will be appropriate (also look at the relevance and appropriate of technologies based on cultural aspects)

Comment [D13]: How do we move forward with this document:

1. This needs to be substantive, most helpful would be overall reasons why this should be used by water managers and key steps and best steps to engage in cultures and how to go about approaching relevant communities. Overarching guiding principles
2.Acknowledgement of previous mistakes and not inclusive of other cultural norms and understanding and its negative impact on environment and the incorporation of looking at culture as a means of moving forward – allowing reconciliation
3.As a plan manager having the cultural understanding and what those impacts are for. Where do you find the significance, what are the impacts of conveyance and impacts for work you are doing from a cultural perspective. Looking at the existing laws that require these types of consultations and cultural impacts. This chapter has the ability to assist in how to do that.
4. Demonstrate how this is an affective tool good to tell one of those stories howing how appropriate or inappropriate consideration of culture has a positive and negative impact on decisions.
5.Incorporate something in this what will help to establish something now and move forward.

- Construction of large-scale water infrastructure systems, which have fundamentally changed many areas of the state.
- Railroad construction and the dewatering of high-elevation meadows.
- There is a new urgency in planning and protecting the shoreline for water-dependent uses. Many view the preservation of land for water-dependent uses, in part, as the preservation of the historical and cultural resources that contribute to the charm of coastal communities. Policy-makers have used restrictive zoning, tax abatement, public acquisition of critical parcels through fee-simple or less-than-fee purchases, and transfer of development rights to surrounding lands to conserve those lands best suited for water dependent uses (Goodwin, 1994). The public benefits are protected or required. The unique characteristics of waterfronts provide a wide array of public benefits involving the economy and jobs, the culture of the community, the physical environment, access to the waterfront, and many other dimensions. These public benefits provide local communities with both the rationale and the goals for developing programs to preserve and maintain water dependent uses.

Potential Benefits

1. Using traditional knowledge and practices to better sustain and integrate water management and provide models of sustainability.
2. Continuation of traditional practices and knowledge to future generations.
3. Improved recognition and support of cultural diversity and heritage resources.
4. Potential partners and alliances for projects, leveraging different funding sources.
5. Preserving everyone's understanding of California's history.
6. Understanding the historical context for community establishment, avoid repeating past problems, recognizing the challenges for sustainability, and the need for remediation.
7. Avoiding conflict and litigation.
8. Avoiding costs (remediation).
9. Understanding cultural implications associated with sea level rise, adaption, and mitigation responses.
10. Peace of mind, quality of life, life passages.
11. Serving as models of sustainability.
12. Learning more about natural processes (rivers/oceans are teachers).
13. Compliance with cultural resource management laws, requirements for State agencies to have inventory of historic assets and report them to Office of Historic Protection.
14. Understanding perspectives that influence water conservation, water management approaches.

Potential Costs

Costs associated with:

- Education and outreach.
- Restoration.
- Research.
- Mitigation.
- Retreat.
- Historic preservation involving taking inventory, evaluating structures for significance, and making management plans (e.g., cultural landscape management plans). Costs depend on scale.
- Interpretive exhibits, markers, plaques.

- Legal.
- Repatriation.

Major Implementation Issues

1. Lack of information and education of what laws apply and determine who is responsible.
2. Private land owners are not policed if cultural remains or artifacts are found on their property.
3. Concerns similar to those associated with habitat for endangered species (i.e., safe harbor) that protection or mitigation efforts may constrain future choices. Once there is a historic designation, it's hard to remove a building.
4. Inherent rights to access and use the waters of the state, tension between access and public property — bottom of the river vs. banks of the river (Article 10 of the California Constitution).
5. Coastal access triggers discussion of mean low- and high-tide levels.
6. Lack of information regarding whom to contact, procedures, and hiring cultural monitors and archaeologists. Lack of agency alignment regarding roles and responsibilities; issues may not be referred to other related programs.
7. Cultural distrust from past experiences makes it difficult to communicate about cultural considerations (e.g., introduction on non-native species, [contact DFW, Boating and Waterways; consumption of contaminated fish] – [check with SF Estuary Institute]; dependence on revenue from existing invasive species (e.g., striped bass).
8. Information on cultural and historical resources exists in various databases. Some of the information, such as regional Information Centers, is a fee-for-service basis.
9. Important water resources may originate in areas with little political clout.

Climate Change

Climate change is projected to have a significant impact on water and water-dependent resources in California. Increased air temperatures will result in warmer water temperatures, a shift in precipitation with more precipitation falling as rain rather than snow, more frequent and intense droughts, and rising sea levels. While future precipitation is somewhat uncertain, greater flood magnitudes are anticipated due to more frequent atmospheric river storm events (Dettinger 2011). In addition, changes in the type and timing of precipitation will result in altered surface runoff and volumes, with more runoff occurring in the winter and less in the spring and summer. These changes will affect the water-dependent resources that currently support many cultural activities.

Changes in temperature and precipitation will affect ecosystems throughout the state and impact the subsistence activities that these ecosystems support, especially those that rely on specific species of plants and animals that are particularly vulnerable to the projected changes. Changes in surface runoff and volume, greater salinity intrusion associated with sea level rise, and warmer water temperatures will also impact recreation and spiritual practices associated with water as water levels, stream flows, and water quality are reduced. Historic preservation activities will also be impacted with important cultural sites being at greater risk either due to exposure during extended drought periods or by inundation or physical damage during extreme flood events. More frequent and intense wildfires could also impact all of these cultural activities.

Adaptation

Probably the biggest impact to water-dependent culture resources will come from large-scale ecosystem changes. However, while climate change creates challenges for ecosystems, maintaining and creating healthy and resilient ecosystems can also reduce the impacts associated with the anticipated changes in temperature and hydrology. Certain actions, such as high-elevation meadow restoration, can slow down increased winter runoff allowing it to recharge underlying aquifers and then slowly releasing that water to help maintain summer in-stream flows. Floodplain restoration also provides similar benefits in protecting water resources while also providing critical habitat for numerous species. In coastal areas, wetlands can provide a buffer against rising sea levels while improving water quality and providing habitat for numerous species.

Mitigation

1. Provide outreach and financial and technical assistance to the extent feasible to protect culture resources and increase better understanding of a) carbon sequestration potential with watershed and riparian forests and b) water conservation and water use efficiency for climate change mitigation.
2. Mitigate, minimize, and reduce greenhouse gas emissions (GHG) related to the water project impacts on culture resources to the extent feasible.
3. Identify tribal opportunities for water recycling and renewable energy and promote understanding of cultural practices and implications associated with climate change mitigation and responses.
4. Provide benefits and incentives for tribal water and energy use efficiency projects.

Other Resource Management Strategies

- Chapter 3, “Urban Water Use Efficiency” describes attitudes about recycled water, water meters, lawns, desalination.
- Chapter 4, “Flood Management” discusses lifestyles and land use.
- Chapter 8, “Water Transfers” as timing of water deliveries from natural systems changes, the traditional approaches for water transfers has to be revisited.
- Chapter 17, “Matching Water Quality to Use” Use recognizes that not all water uses require the same quality water. Conflicts can occur when water designated as non-potable is accessible to the public, who are uninformed that water quality does not meet public health standards.
- Chapter 18, “Pollution Prevention” discusses proper land use management practices to prevent sediments and pollutants from entering the water body.
- Chapter 22, “Ecosystem Restoration: discusses differences of objectives between removal of human-made changes for environmental benefits.
- Chapter 31, “Water-Dependent Recreation” provides additional discussion on recreational aspect of culture and water.

The cultural context needs to be considered when implementing any resource management strategy. Every approach requires looking at the cultural context and any land use activity might require a cultural resource inventory.

Recommendations

1. Water management agencies should have an appointed preservation officer who is responsible for cultural resource stewardship, developing policies and plans for the protection of historical resources, and ensuring that the agency follows these policies as well as applicable State and federal requirements.
2. Water management agencies should have cultural resource management programs, which include the following:
   A. Inventory of all cultural resources within the jurisdiction of the agency.
   B. Program of systematic condition assessment of cultural resources.
   C. Develop treatment plans and prioritized programs for routine maintenance of individual resources.
   D. Establish and maintain a data file for each cultural resource or groups of resources organized by field division(s).
   E. Identified research goals for archaeological, ethnographic, and historical research proposed within the jurisdiction.
   F. Management of any archaeological or historical object collections maintained by the agency.
   G. Establish and maintain relationships with California Native American tribes and communities who may have an interest in the cultural resources of the agency.
   H. Staff training and education about cultural resource management.
   I. Coordination with local archaeological and historical societies and other groups with an interest in cultural resource protection.
3. Educate the public about the Surfrider Foundation, the Bolsa Chica $150 million settlement, *Cadillac Desert*, Mary Austin, Tahoe Blue, and Friends of the River.
4. Educate children how watersheds work, provide knowledge about how water works, about water flow, how water moves, impacts of using water resource, AmeriCorps projects throughout state, communities service water project engage, and NPS/PS projects. Add the hydrologic cycle to the California education standard. Every student should learn the hydrologic cycle from headwater to ocean and the impact and dependency the state has on water.
5. Expand inclusion and integration of traditional/indigenous practices and knowledge in resources management and planning processes and decisions.
6. Educate the public about resource stewardship activities associated with different groups and organizations.
7. Centralize information on cultural and historical resources into one database.
8. Protect sensitive sites from vandalism.

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Box 30-1 Laws and Policies

California

- California Environmental Quality Act (CEQA) — California Public Resources Code Section 21000 et seq.
- Native American Historical, Cultural and Sacred Sites — California Public Resources Code Sections 5079.60 et seq.
- Preservation of Significant Archaeological Resource Areas and Associated Artifacts — California Public Resources Code Sections 5079.60 et seq.
- Destruction of Archaeological Sites and Caves — California Penal Code Sections 622.5 – 623
- Investigation, Excavation and Preservation of Historic or Prehistoric Ruins — California Water Code Section 23
- Governor's Executive Order No. W-26-92 — Management of significant heritage resources under jurisdiction of state agencies
- Governor's Executive Order B-10-11 — Encourages Communication and Consultation with California Indian Tribes
- California Natural Resources Agency Tribal Consultation Policy

Federal

- National Historic Preservation Act (NHPA) — 16 U.S.C. Sections 470 et seq.
- National Environmental Policy Act (NEPA) — 42 U.S.C. Sections 4321 et seq.
- Archaeological Resources Protection Act (ARPA) — 16 U.S.C. Sections 470aa et seq.
- Archaeological and Historic Preservation Act (AHPA) — 16 U.S.C. Sections 469 et seq.
- Native American Graves Protection and Repatriation Act — 25 U.S.C. Sections 3001 et seq.
- American Indian Religious Freedom Act — 42 U.S.C. Section 1996
- National Park Service Bulletin 36 — Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes
- (Federal) Executive Order 13175 — Consultation and Coordination with Indian Tribal Governments (2000)

Federal Consultation

- http://ceq.hss.dow/gov/nepa/regs/eos/eo13175.html.
- http://www.dot.ca.gov/ser/vol1/sec3/cultural/ch28arch/chap28.htm#definition.

Box 30-2 Diverse Definitions of Culture

Topical	Consists of everything on a list of topics or categories such as social organization, religion, or economy.
Historical	Social heritage or tradition that is passed on to future generations.
Normative	Ideals, values, or rules for living.
Behavioral	Shared, learned human behavior; a way of life.
Functional	Way humans solve problems of adapting to the environment or living together.
Mental	Complex of ideas or learned habits that inhibit impulses and distinguishes people from animals.
Structural	Consists of patterned and interrelated ideas, symbols, or behaviors.
Symbolic	Based on arbitrarily assigned meanings that are shared by a society.

Source: Bodley JH. 1997. Cultural Anthropology: Tribes, States, and the Global System. 2nd edition. p. 9, as modified from Kroeber A. Kluckhohn C. 1952. Culture, A Critical Review of Concepts and Definitions. Cambridge (MA): Papers of the Peabody Museum of American Archaeology and Ethnology no. 1. Harvard University